A Project Report on

Online Book Management System

Submitted by

R.SreeLatha -R170553
B.Jayasree Lakshmi -R170542

Submitted to

IIIT RK Valley
Idupulapaya,Vempalli,YSR kadapa
Andhra Pradesh , India PIN 516330

Under the guidance of

M.HimaBindu
Assistant Professor

as a part of
Partial fulfillment of the degree of Bachelor of Technology in
Computer Science and Engineering

CERTIFICATE

This is to certify that the report entitled "**Online Book Management System**" submitted by ***R.SreeLatha [R170553] , B.Jayasree Lakshmi [R170542]*** in partial fulfillment of the requirements for the award of Bachelor of Technology inComputer Science and Engineering isa bonafide work carried out by them under mysupervision and guidance.

The report has not been submitted previously in part or in full to this or any other University or Institution for the award of any degree or diploma.

M.HimaBindu,
Project Internal Guide,
Computer Science and Engineering,
R.K Valley, RGUKT.

Mr.P.Harinadha
Head of the Department,
Computer Science andEngineering,
R.K.Valley, RGUKT.

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My sincere thanks to all the members who helped me directly and indirectly in the completion of project work . I express my profound gratitude to all our friends and family members for their encouragement.

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Abstract

Online Library Management System is a system which maintains the information about the books present in the library, their authors, the members of library to whom books are issued, library staff and all.

This is very difficult to organize manually. Maintenance of all this information manually is a very complex task.Owing to the advancement of technology, organization of an Online Library becomes much simple.

The Online Library Management has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations.

This computerization of library helps in many instances of its maintenances. It reduces the workload of management as most of the manual work done is reduced.

1.Introduction

The project aims and objectives that will be achieved after completion of this project are discussed . The aims and objectives are as follows:

- Online book reading.
- A search column to search availability of books.
- Can report an issue.

An Admin login page where admin can add books, or page source,can resolve the issues reported by the user.

- **Admin**
- **User**

Admin Module

Admin is the super user of the website who can manage everything on the website.Admin can log in through the login page.

Admin can manage entire book system like adding books,issuing books,deleting books and resolving issues made by user.

User Module

User can visit the application through a URL. User can read the books issued by Admin through online mode, user can request the books and can report an issue.

Analysis and Design

Purpose

The main purpose of Online Book Management System is a computerized system which helps user (librarian) to manage the library daily activity in electronic format . It reduces the risk paper work such as file lost , file damaged and time consuming. It can help user to manage the transaction or record more effectively and time-saving.

Scope

The system is developed to cope up with the current issues and problems of library The system can add user, validate user and is also bug free. After computerized system is implemented less human force will be requiredto maintain the library thus reducing the overall cost.

Librarian is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time.Librarian will be able to provide a detailed description of workshops going in thecollege as well as in nearby colleges,Lecture Notes.

Teacher have a facility to upload lectures notes in a pdf file having size not more than 10mb.

Disadvantages of present system:

- *Public libraries have operating hours ,if any individual arrives too late,they wont be able access to the library resources.*
- *People are restricted too by the amount of time they can spend with a resource.*
- *Each must be returned to the library within a set period of time.*
- *Many other online platforms would demand money to access the prime editions.*
- *And also we may not able to request our desired books.*

Advantages of Online Book Management System:

- *It is simple and easy to operate.*
- *Easy Mobile access,anytime and anywhere.*
- *Search,add,update,and view library materials online.*
- *Helps to manage library functions constructively.*
- *Save time and reduces overheads.*
- *Reduces library's operating cost. And User can request his desired books to the admin.*

Requirement Specification

Hardware Configuration:

Client Side:

Ram	4 GB
Hard disk	487.0 GB
Processor	1AMD® A9-9420 radeon r5, 5 compute cores 2c+3g × 2

Server side:

Ram	4 GB
Hard disk	487.0 GB
Processor	1AMD® A9-9420 radeon r5, 5 compute cores 2c+3g × 2

Software Requirement:

Front end	HTML , CSS
Server side Language	PHP
Database Server	MYSQL
Web Browser	Firefox, Google Chrome or any compatible browser
Operating System	Ubuntu , Windows or any equivalent OS
Software	xampp

APACHE

The Apache HTTP Server Project is an effort to develop and maintain an open-source HTTP server form odern operating systems including UNIX and Windows .The goal of this project is to provide a secure, efficient and extensible server that provides HTTP services in sync with the current HTTP standards.

The Apache HTTP Server was launched in 1995 and it has been the most popular web server on the Internet since April 1996. It has celebrated its 20th birthday as a project in February 2015.

PHP

- PHP stands for PHP:Hyper text Preprocessor.
- PHP is a server-side scripting language,like ASP.
- PHP scripts are executed on the server.
- PHP supports many databases(MYSQL,Informix,oracle,Sybase,Solid,GenericODBC,etc) .
- PHP is an open source software.
- PHP is free to download and use.

MYSQL

- MYSQL is a database server
- MYSQL is ideal for both small and large applications
- MYSQL supports standardSQL
- MYSQL compiles on any number of platforms
- MYSQL is free to download and use
- How to accessMySQL:
  http://localhost/phpmyadmin

SYSTEM REQUIREMENTS

NON FUNCTIONAL REQUIREMENTS

EFFICIENCY REQUIREMENT :

When a library management system will be implemented librarian and user will easily access library as searching and book transaction will be very faster .

RELIABILITY REQUIREMENT :

The system should accurately performs member registration ,member validation , report generation, book transaction and search.

USABILITY REQUIREMENT :

The system is designed for a user friendly environment so that student and staff of library can perform the various tasks easily and in an effective way.

ORGANIZATIONAL REQUIREMENT IMPLEMENTATION REQUIREMENTS :

In implementing whole system it uses html in front end with php as server side scripting language which will be used for database connectivity and the backend ie the database part is developed using my sql.

FUNCTIONAL REQUIREMENTS

- NORMAL USER
- USER LOGIN

Description of feature

This feature used by the user to login into system. They are required to enter user id and password before they are allowed to enter the system . The user id and password will be verified and if invalid id is there user is allowed to not enter the system.

Functional requirements

User id is provided when they register the system must only allow user with valid id and password to enter the system. The system performs authorization process which decides what user level can access to the user must be able to logout after they finished using system.

REGISTER NEW USER

This feature can be performed by all users to register new user to create account.

Functional requirements.

- System must be able to verify information.
- System must be able to delete information if information is wrong.

REGISTER NEW BOOK

This feature allows to add new books to the library:

Functional requirements

- System must be able to verify information
- System must be able to enter number of copies into table.
- System must be able to not allow two books having same book id.

SEARCH BOOK

- This feature is found in book maintenance part . we can search book based on book id ,book name , publication or by author name.
- System must be able to search the database based on select search type.
- System must be able to filter book based on keyword entered.
- System must be able to show the filtered book in table view.
- System should be able to add detailed information about events .
- System should be able to display information on notice board available in the homepage of site.

Design Introduction:

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.

Once the software requirements have been analyzed and specified the software design involves three technical activities-design,coding,implementation and testing that are required to build and verify the software.

The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made.

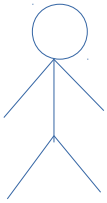
These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer's requirements into finished software or a system.

Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data.

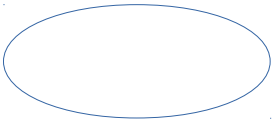
UML Diagrams:

Actor:

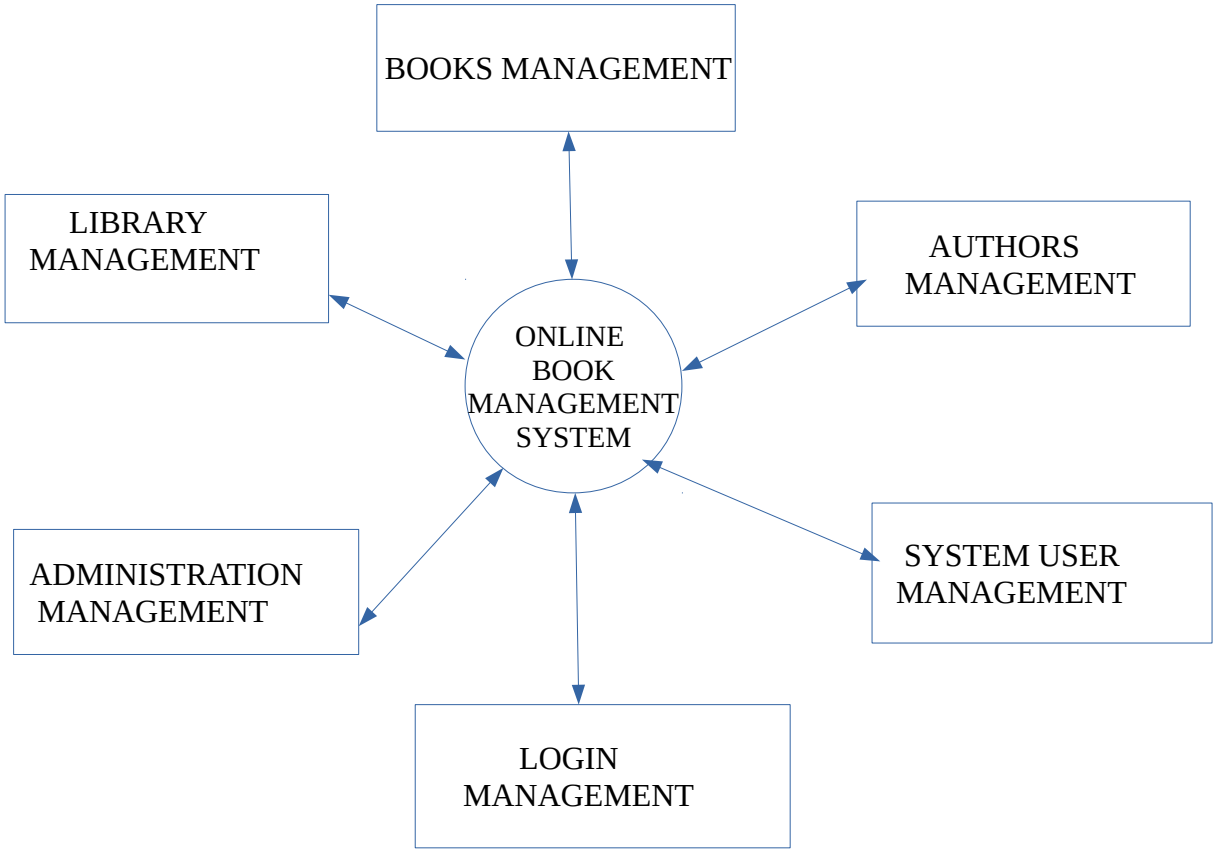
Acoherent set of roles that users of usecases play when interacting with the usecases. an observable result of value of an actor.



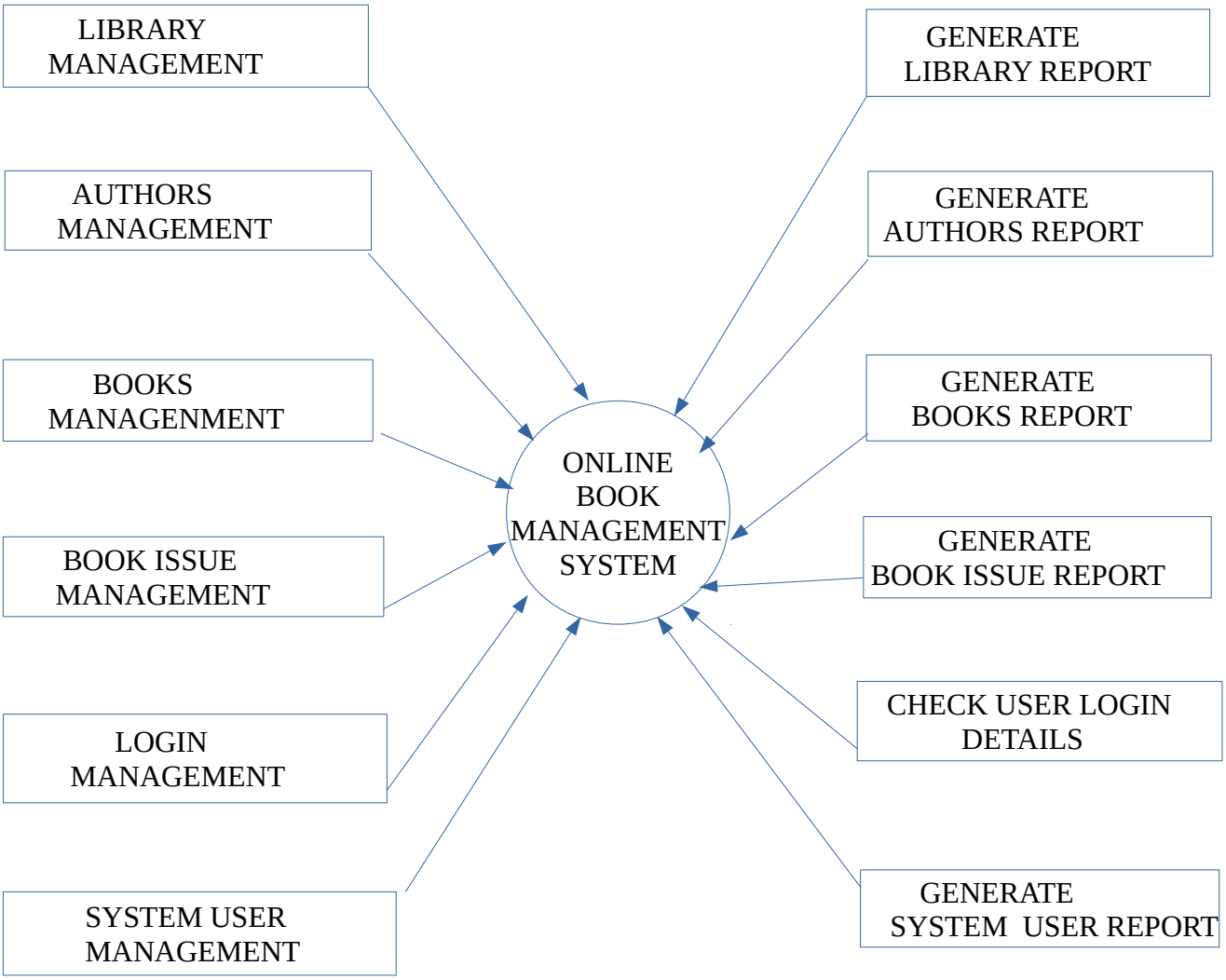
Use case: A description of sequence of actions, including variants, that a system performs yields an observable result of value of an actor . Actor diagram is drawn in a eclipse shape.



ZERO LEVEL DATA FLOW DIAGRAM :



FIRST LEVEL DATA FLOW DIAGRAM :



UML stands for **Unified Modeling Language.** UML is a language for specifying, visualizing and documenting the system. This is the step while developing any product after analysis.

The goal from this is to produce a model of the entities involved in the project which later need to be built. The representation of the entities that are to be used in the product being developed need to be designed.

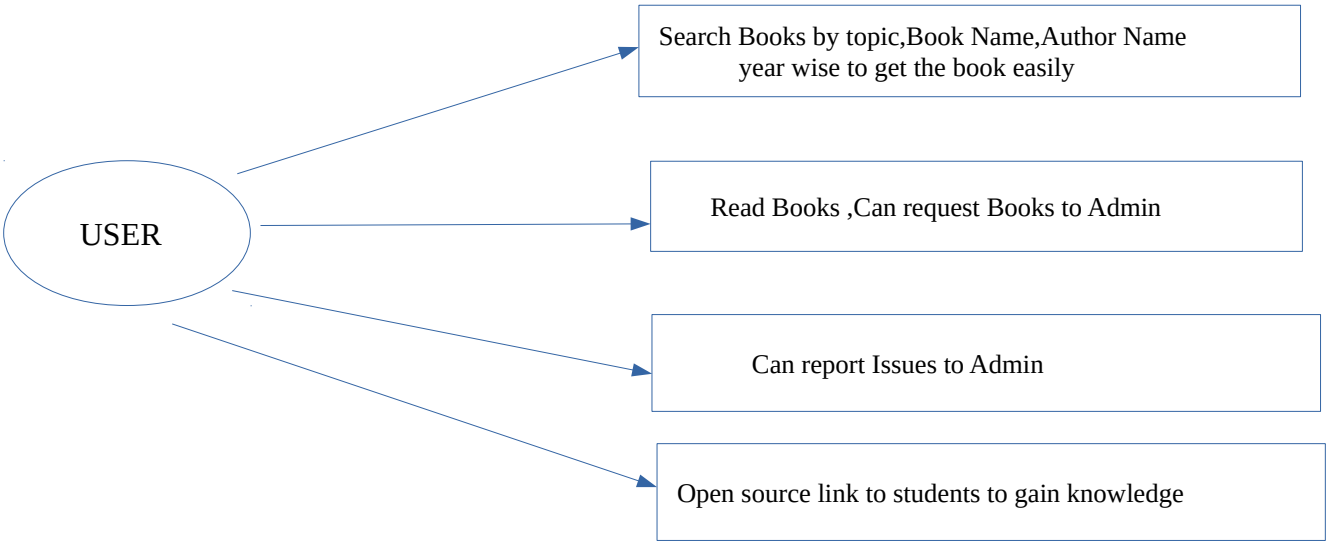
USE CASE DIAGRAMS:

Use case diagrams model behavior within a system and helps the developers understand of what the user require. The stick man represents what's called an actor.

Use case diagram can be useful for getting an overall view of the system and clarifyinthat can do and more importantly what they can't do.

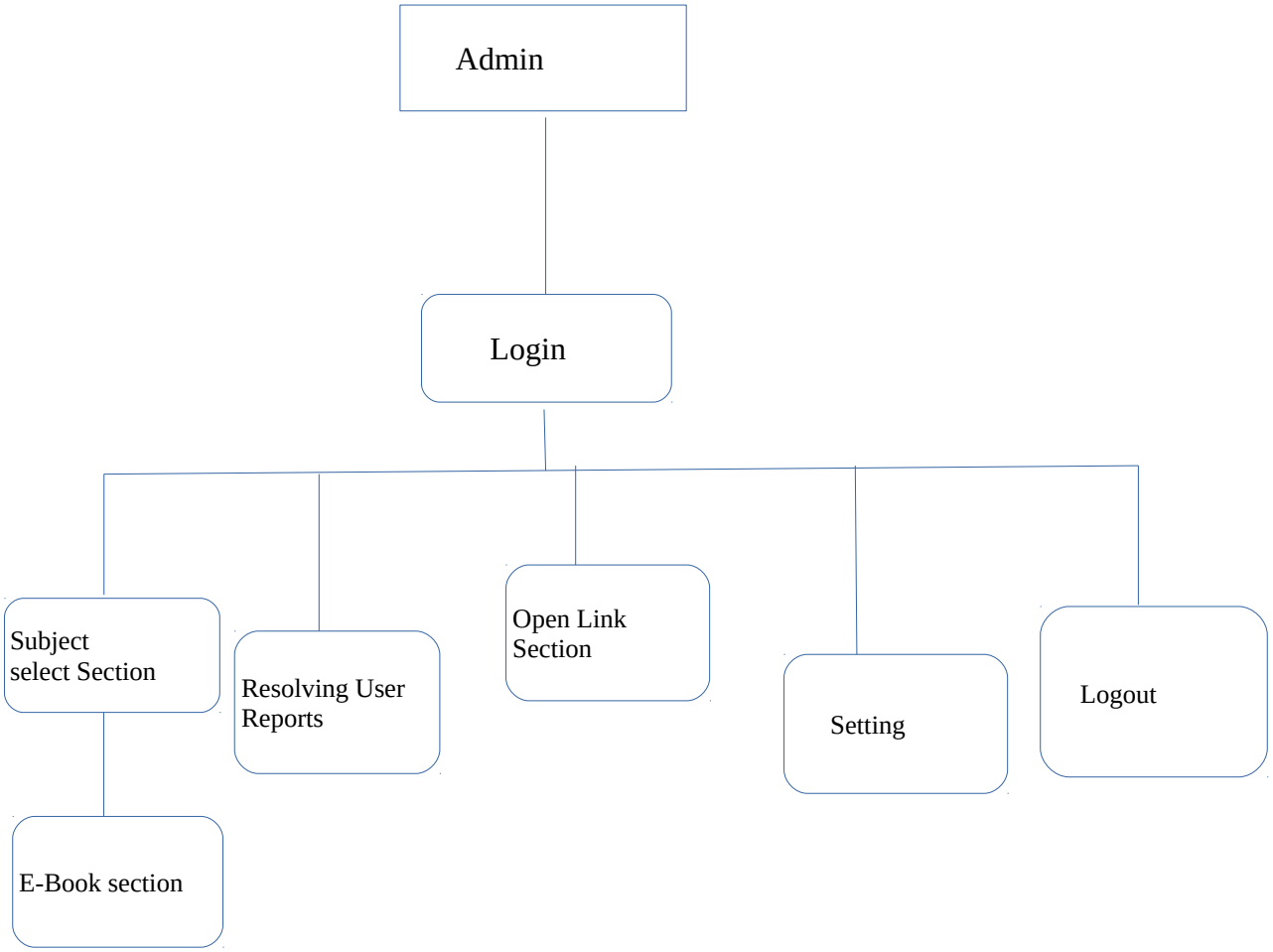
Use case diagram consists of use cases and actorsand shows the interaction between the use case and actors.

- The purpose is to show the interactions between the use case and actor.
- To represent the system requirements from user's perspective.
- An actor could be the end-user of the system or an external system.

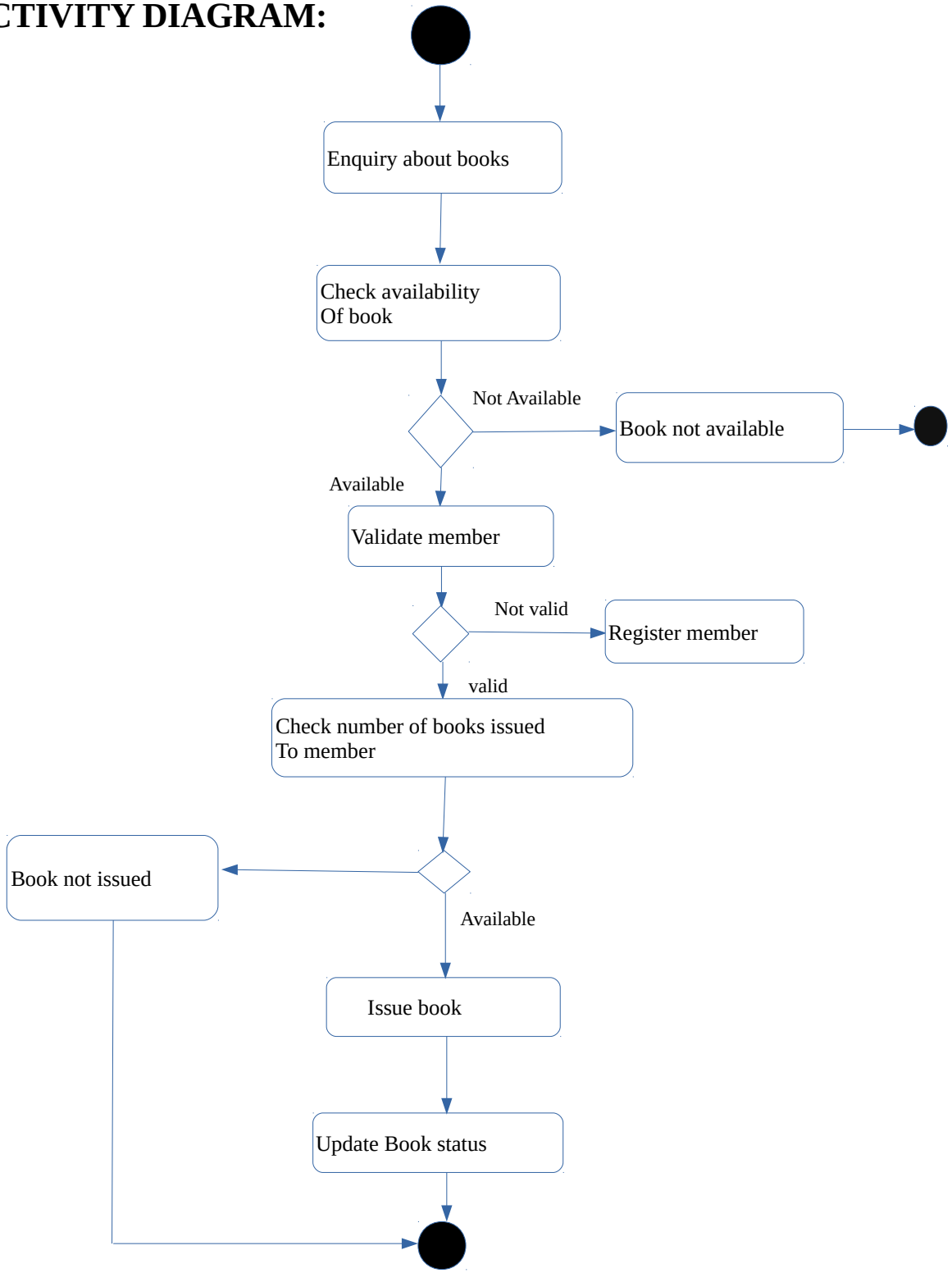


UseCase Diagrams:

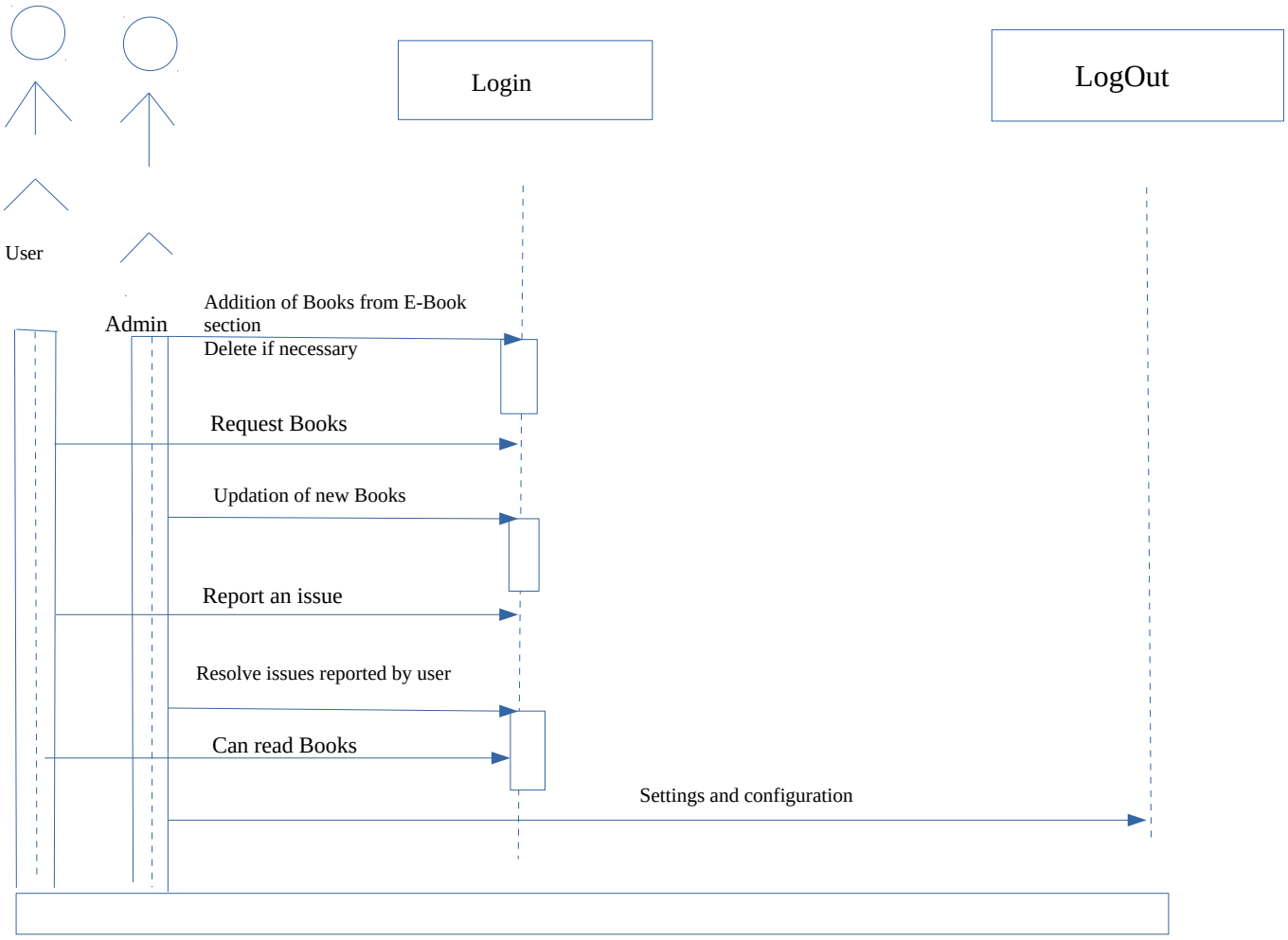
Admin:



ACTIVITY DIAGRAM:



SEQUENCE DIAGRAM:



ER Diagram:

The Entity-Relationship (ER) model was originally proposed by Peterin 1976 [Chen76] as away to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships.

A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects . Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer , the utility of the ER model is :

- It maps well to the relational model . The constructs used in the ER model can easily be transformed into relational tables.
- It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user.

ER Notation:

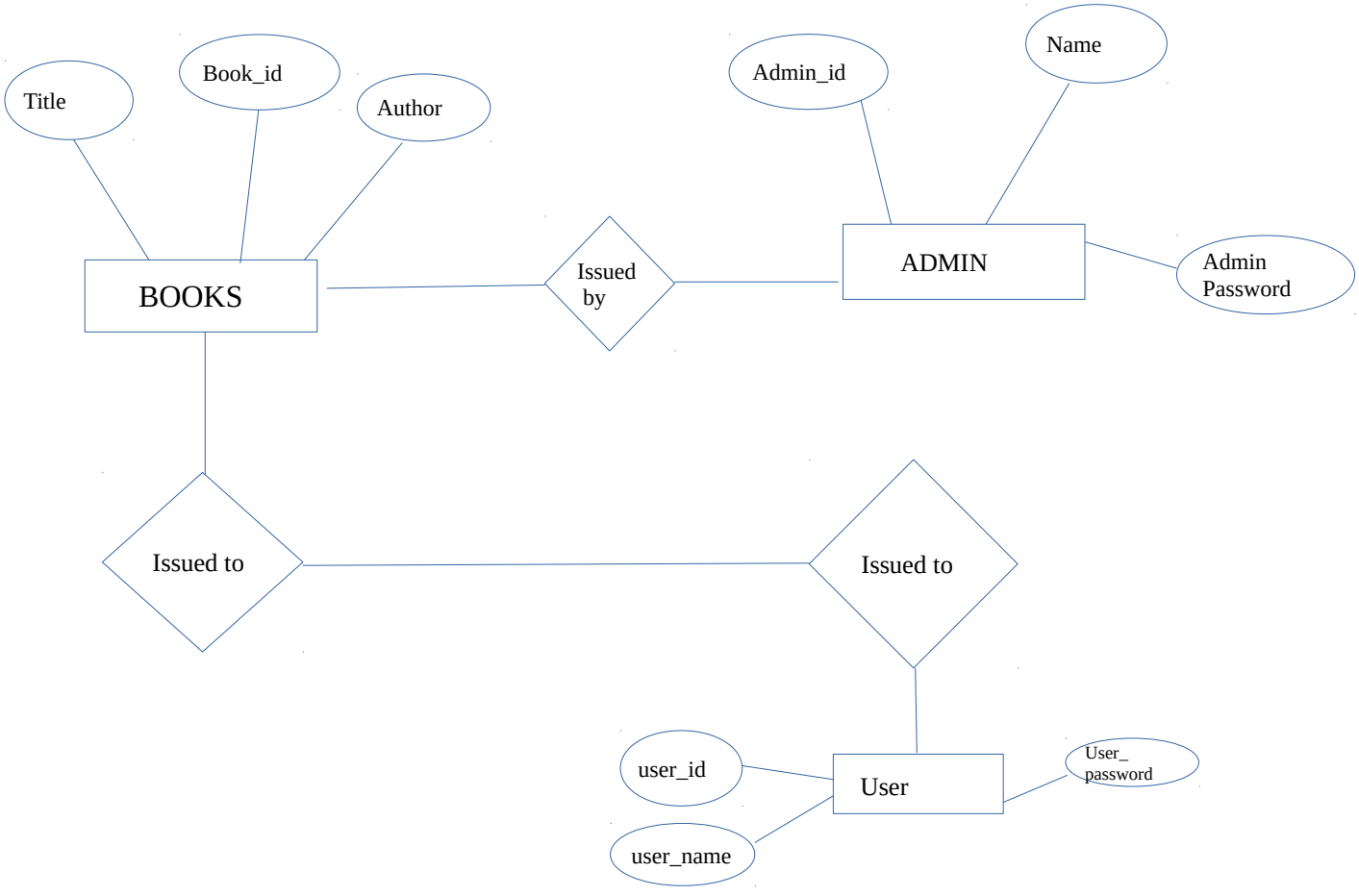
There is no standard for representing data objects in ER diagrams. Each modeling methodology uses its own notation. The original notation used by Chen is widely used in academics texts and journals but rarely seen in either CASE tools or publications by non-academics. Today, there are a number of notations used; among the more common are Bachman, crow's foot, and IDEFIX.

All notational styles represent entities as rectangular boxes and relationships as lines connecting boxes. Each style uses a special set of symbols to represent the cardinality of a connection. The notation used in this document is from Martin .The symbols used for the basic ER constructs are:

- **Entities** are represented by labeled rectangles. The label is the name of the entity. Entity names should be singular nouns.
- **Relationships** are represented by a solid line connecting two entities. The name of the relationship is written above the line. Relationship names should be verbs.

- **Attributes**, when included, are listed inside the entity rectangle. Attributes which are identifiers are underlined. Attribute names should be singular nouns.
- **Cardinality** of many is represented by a line ending in a crow's foot. Then the cardinality is one.
- **Existence** is represented by placing a circle or a perpendicular bar on the line. Mandatory existence is shown by the bar (looks like a1) next to the entity for an instance is required.
- Optional existenceis shown by placing a circle next to the entity that is optional.

ER Diagram:



Implementation and System Testing

After all phase have been perfectly done, the system will be implemented to the server and the system can be used.

System Testing

The goal of the system testing process was to determine all faults in our project .The program was subjected to a set of test inputs and many explanations were made and based on these explanations it will be decided whether the program behaves as expected or not. Our Project went through two levels of testing.

1.Unit testing

2.Integration testing

Unit Testing

Unit testing is commenced when a unit has been created and effectively reviewed .In order to test a single module we need to provide a complete environment i.e. besides the section we would require the procedures belonging to other units that the unit under test calls Non local data structures that module accesses .A procedure to call the functions of the unit under test with appropriate parameters .

1.Test for the admin module

Testing admin login form-This form is used for log in of administrator of the system. In this form we enter the username and password if both are correct administration page will open otherwise if any of data is wrong it will get redirected back to the login page and again ask thedetails.

Report Generation: admin can generate report from the main database.

Integration Testing

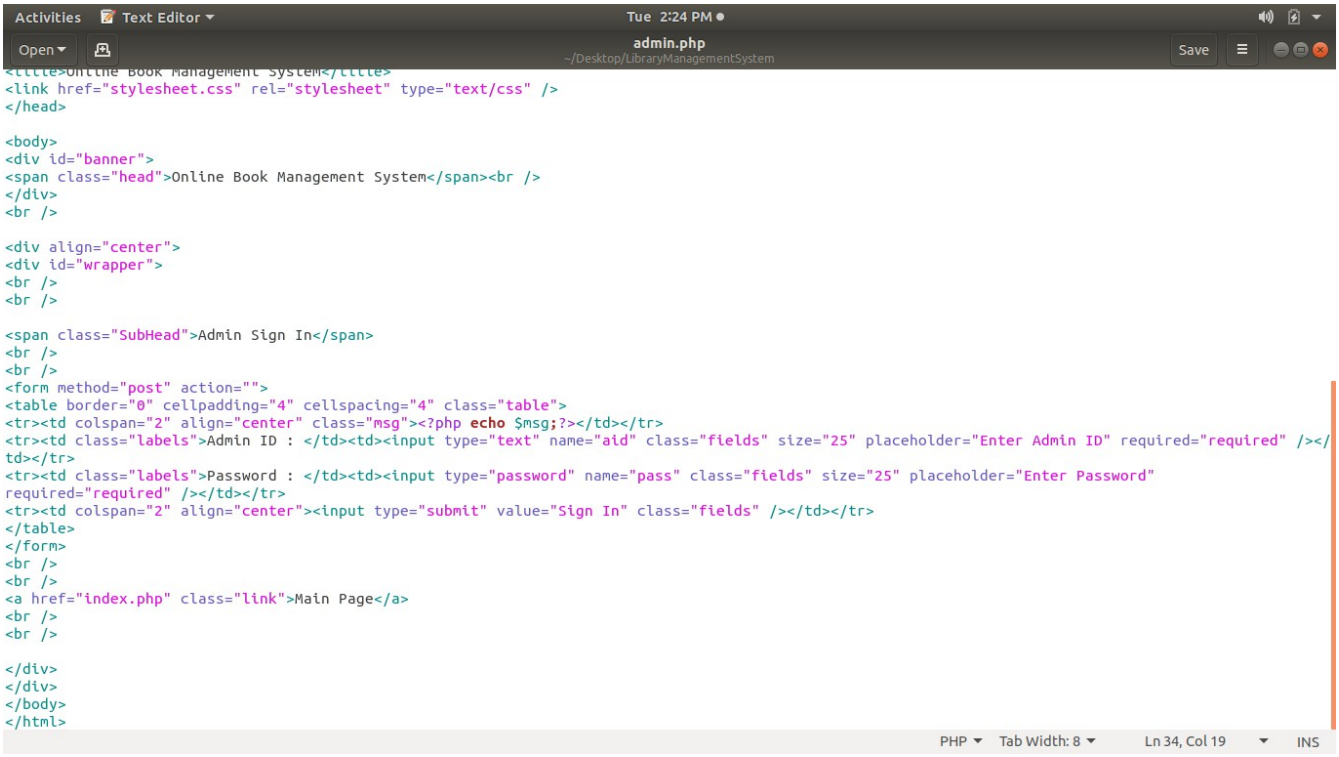
In the Integration testing we test various combination of the project module by providing the input.The primary objective is to test the module interfaces in order to confirm that no errors are occurring when one module invokes the other module.

Evaluation

Project

URL: http://localhost/LibraryManagementSystem/

Sample code:


Activities
Text Editor
Tue 2:24 PM
Open
admin.php
~/Desktop/LibraryManagementSystem
Save
<title>Online Book Management System</title>
<link href="stylesheet.css" rel="stylesheet" type="text/css" />
</head>
<body>

Online Book Management System

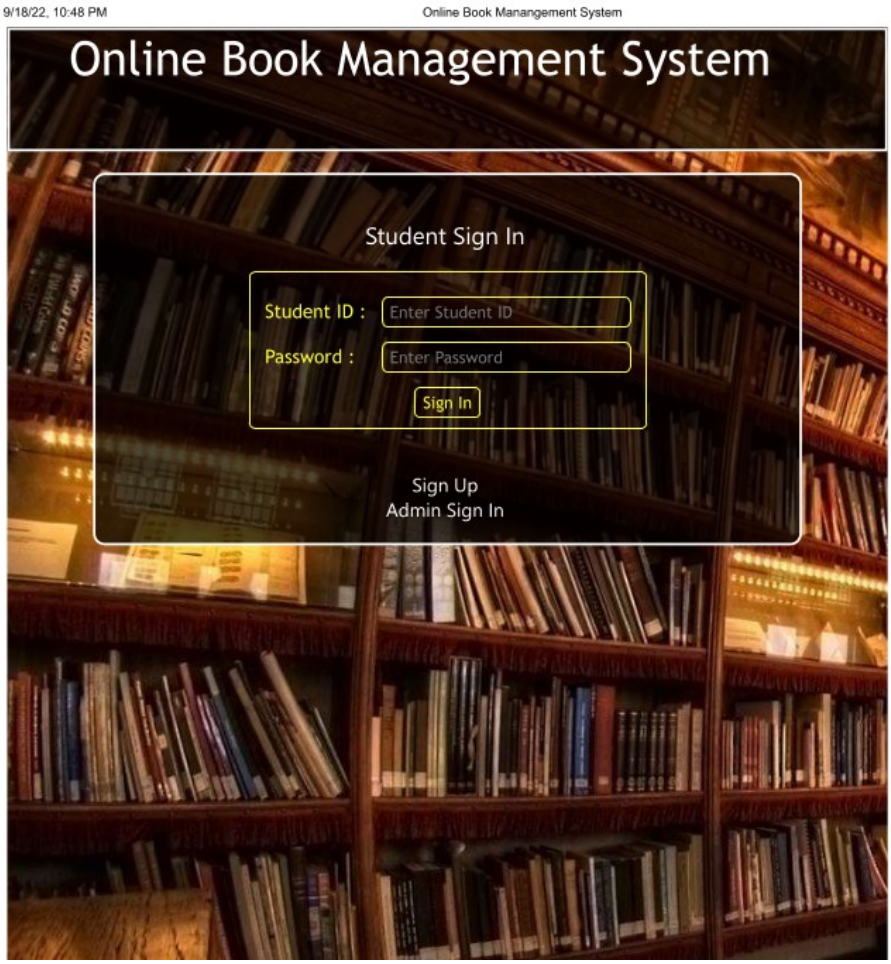
Admin Sign In

<form method="post" action="">
<table border="0" cellpadding="4" cellspacing="4" class="table">
<tr><td colspan="2" align="center" class="msg"><?php echo $msg;?></td></tr>
<tr><td class="labels">Admin ID : </td><td><input type="text" name="aid" class="fields" size="25" placeholder="Enter Admin ID" required="required" /></td></tr>
<tr><td class="labels">Password : </td><td><input type="password" name="pass" class="fields" size="25" placeholder="Enter Password" required="required" /></td></tr>
<tr><td colspan="2" align="center"><input type="submit" value="Sign In" class="fields" /></td></tr>
</table>
</form>

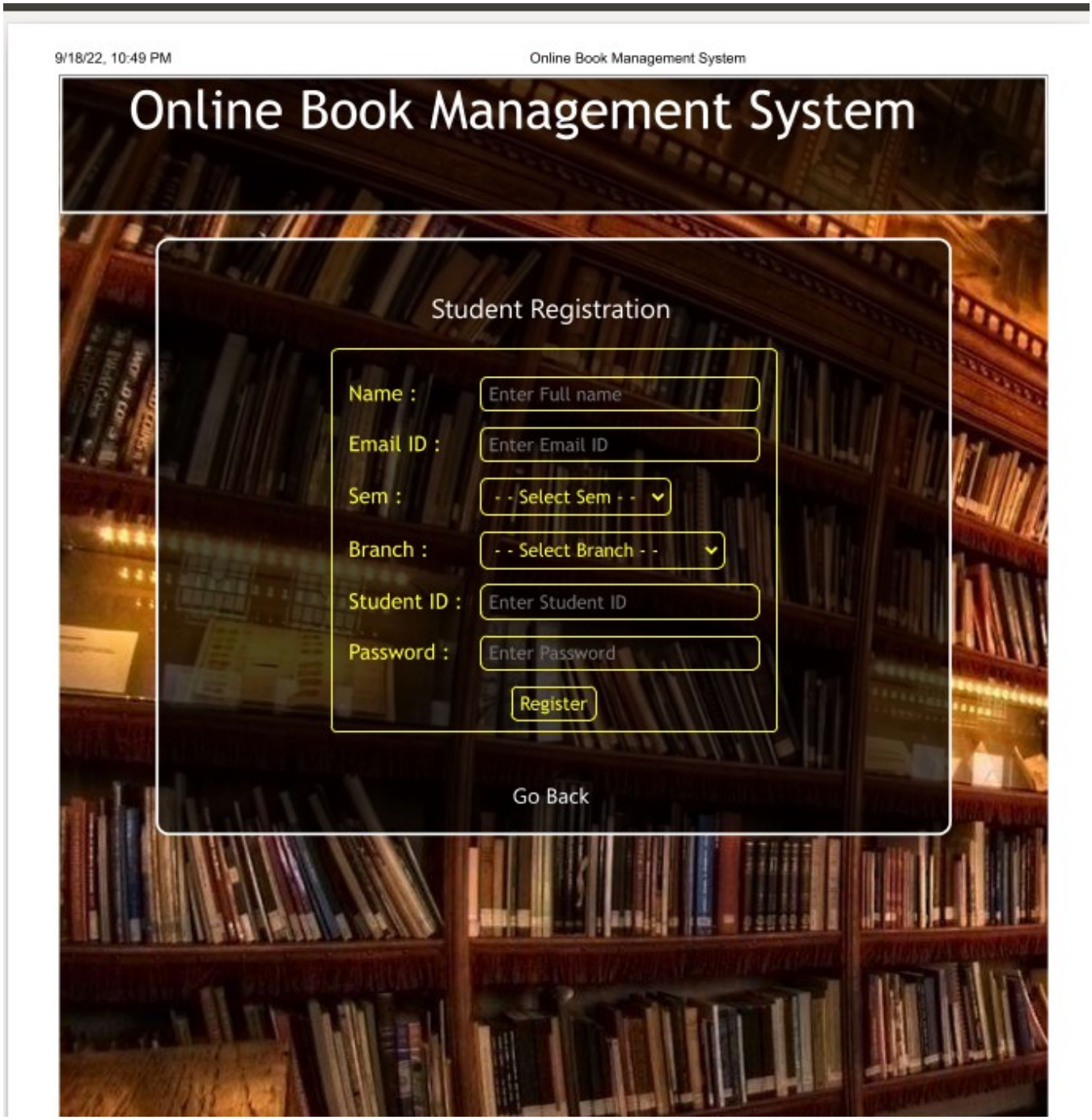
Main Page

</body>
</html>
PHP
Tab Width: 8
Ln 34, Col 19
INS

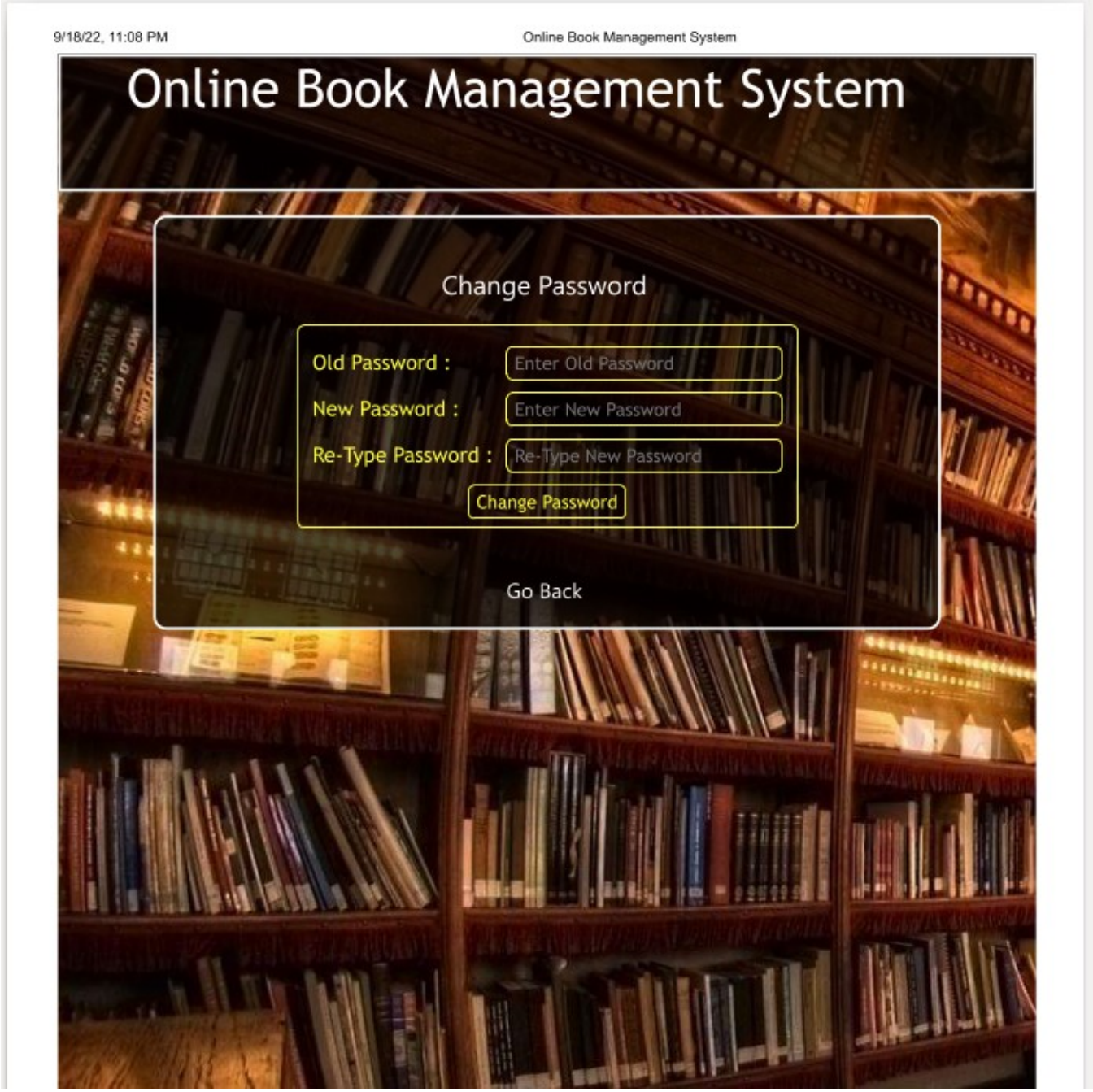
User Interface:



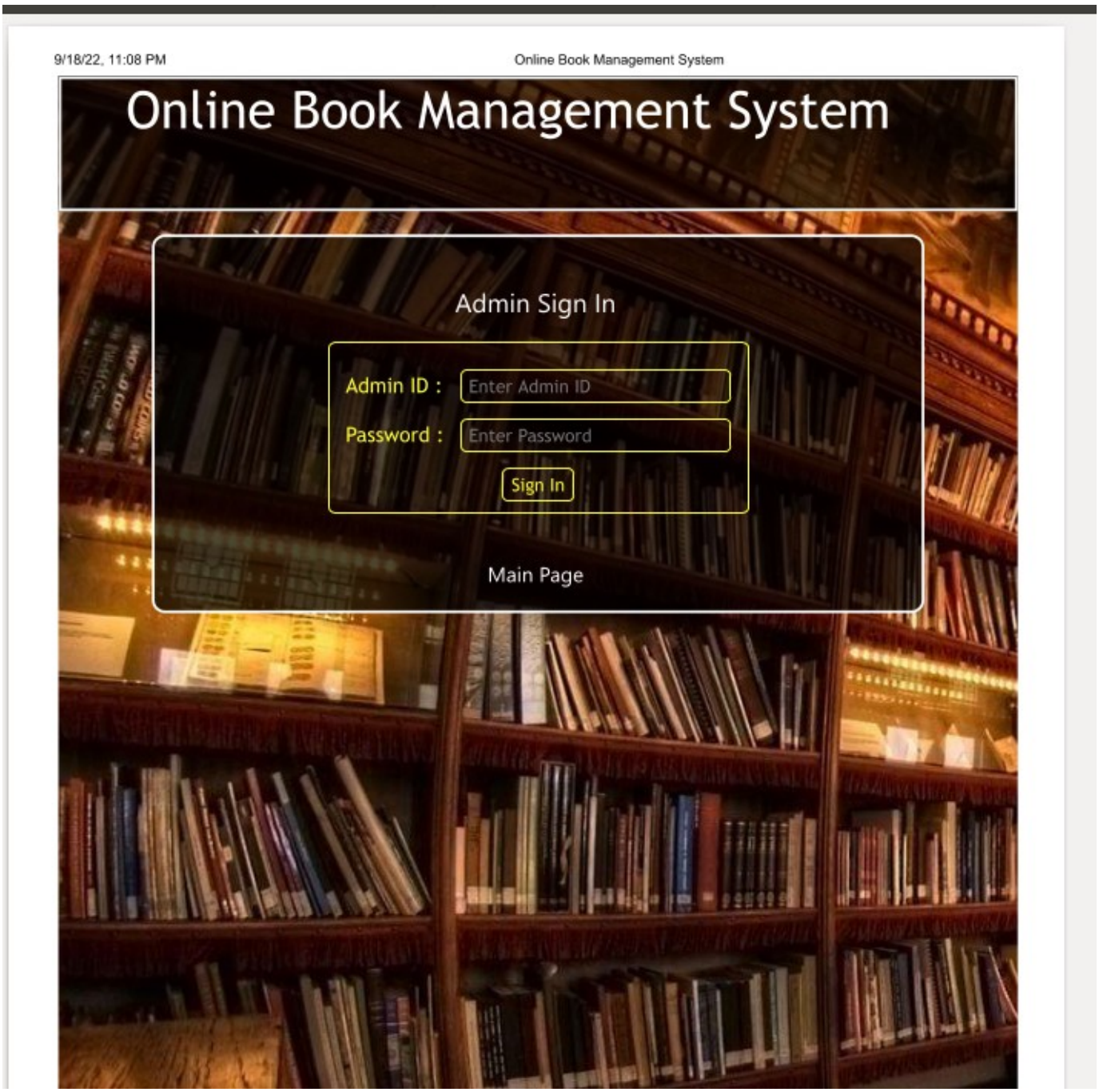
User Registration:



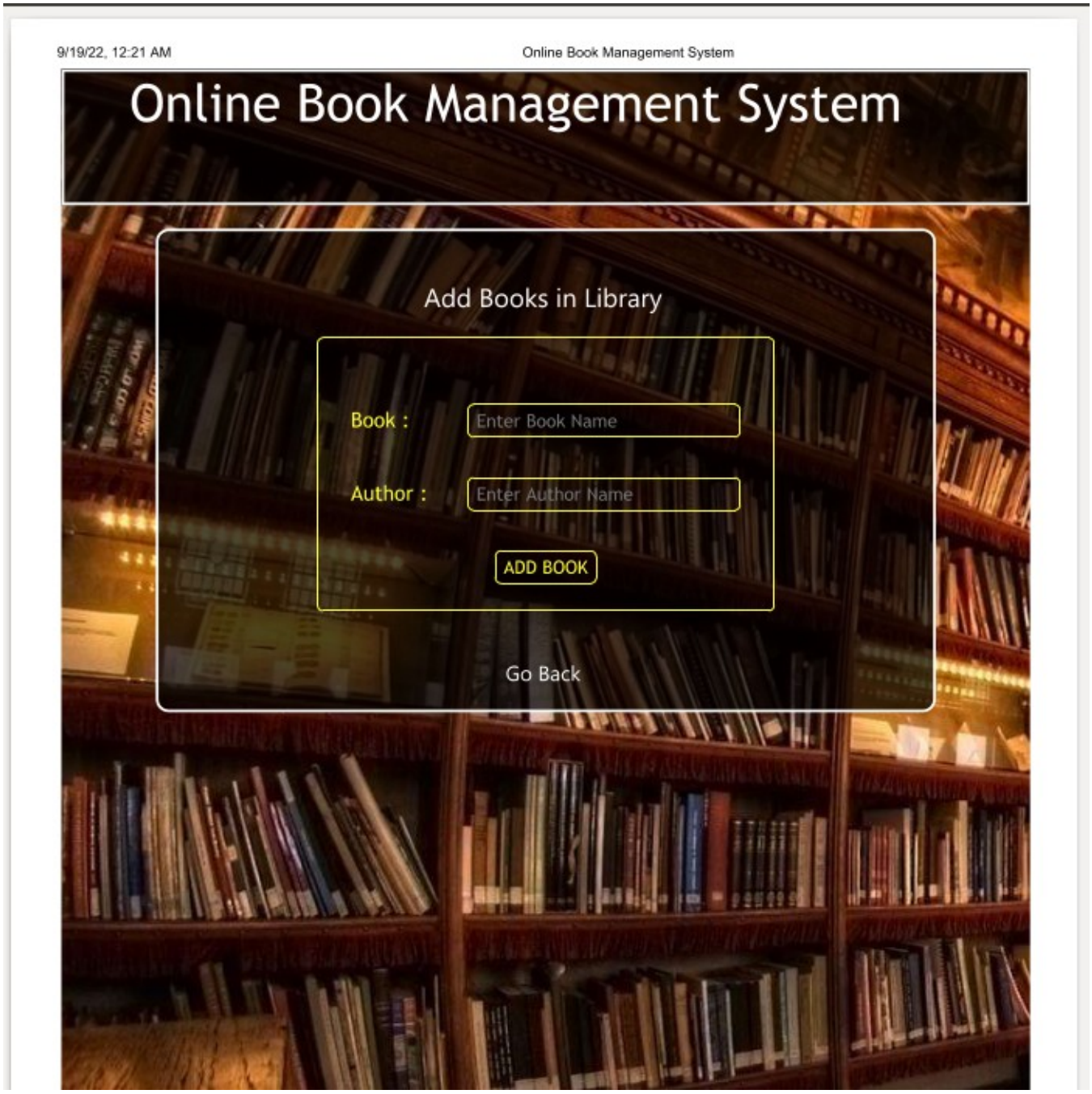
Change Password:



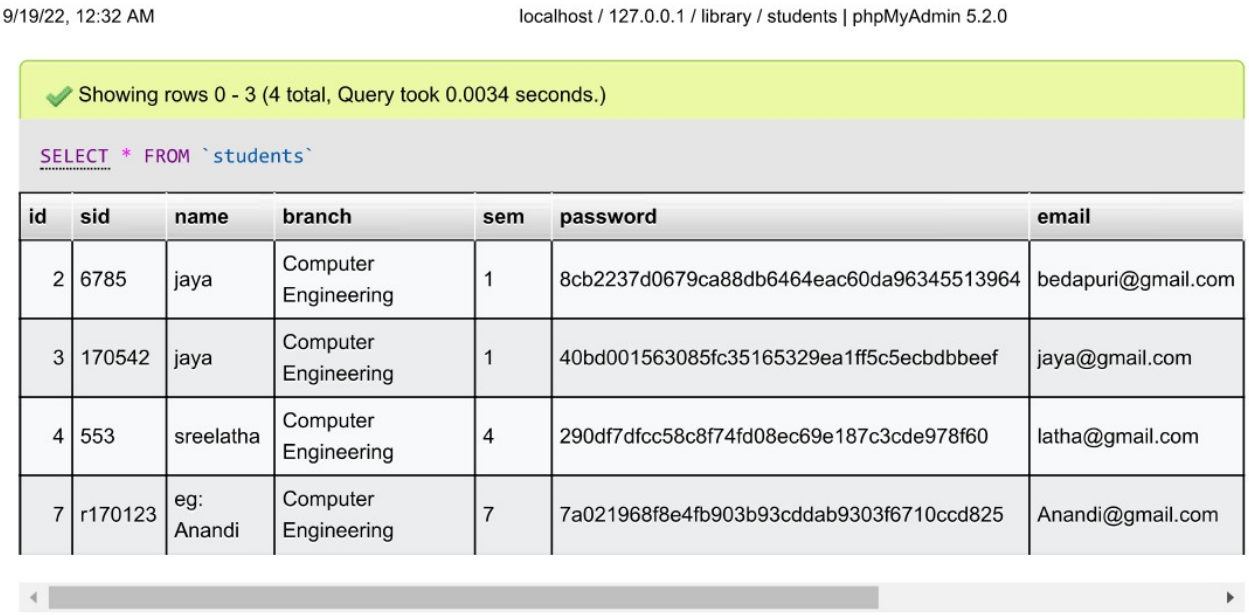
ADMIN Login:


9/18/22, 11:08 PM
Online Book Management System
Online Book Management System
Admin Sign In
Admin ID :
Enter Admin ID
Password :
Enter Password
Sign In
Main Page

Adding Books By Admin:



User Database:



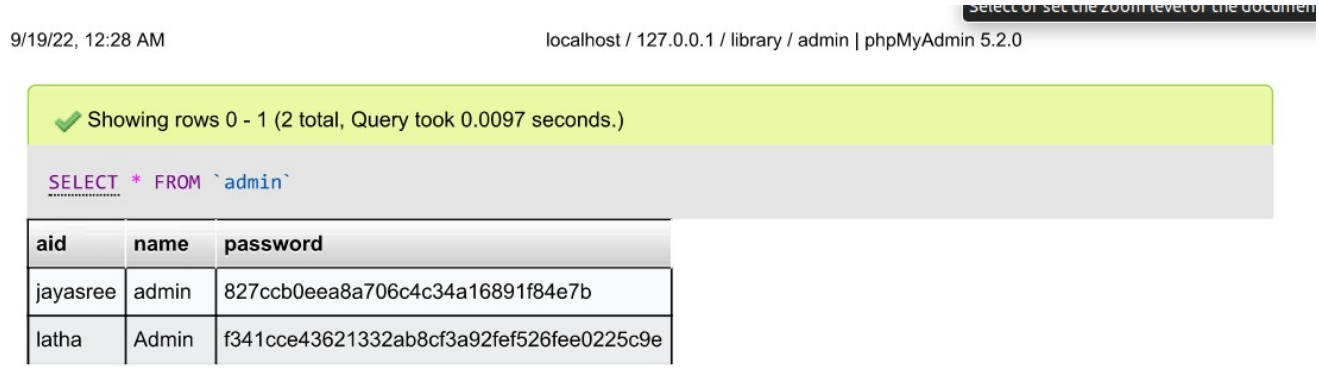
9/19/22, 12:32 AM localhost / 127.0.0.1 / library / students | phpMyAdmin 5.2.0

Showing rows 0 - 3 (4 total, Query took 0.0034 seconds.)

```
SELECT * FROM `students`
```

id	sid	name	branch	sem	password	email
2	6785	jaya	Computer Engineering	1	8cb2237d0679ca88db6464eac60da96345513964	bedapuri@gmail.com
3	170542	jaya	Computer Engineering	1	40bd001563085fc35165329ea1ff5c5ecbdbbeef	jaya@gmail.com
4	553	sreelatha	Computer Engineering	4	290df7dfcc58c8f74fd08ec69e187c3cde978f60	latha@gmail.com
7	r170123	eg: Anandi	Computer Engineering	7	7a021968f8e4fb903b93cddab9303f6710ccd825	Anandi@gmail.com

Admin DataBase:



9/19/22, 12:28 AM localhost / 127.0.0.1 / library / admin | phpMyAdmin 5.2.0

Showing rows 0 - 1 (2 total, Query took 0.0097 seconds.)

```
SELECT * FROM `admin`
```

aid	name	password
jayasree	admin	827ccb0eea8a706c4c34a16891f84e7b
latha	Admin	f341cce43621332ab8cf3a92fef526fee0225c9e

Conclusion

This website provides a computerized version of library management system which will benefit the students as well as the staff of the library.It makes entire process online where student can search books , staff can generate reports and do book transactions . It also has a facility for student login where student can login and can see status of books issued as well request for book or give some suggestions.

It has a facility of teacher's login where teachers can add lectures notes and also give necessary suggestion to library and also add info about workshops or events happening in our college or nearby college in the online notice board.

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility , a feature Of group chat where students can discuss various issues of engineering can be added to this project thus making it more interactive more user friendly and project which fulfills each users need in the best way possible.

References

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- https://www.w3schools.com/php/default.asp
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- https://www.php.net/

For My SQL

- https://www.mysql.com/
- http://www.mysqltutorial.org

For XAMPP

- https://www.apachefriends.org/download.html

****************************THANKYOU**************************